













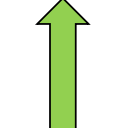
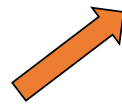
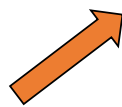
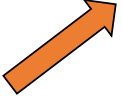
PUBLIC WORKS

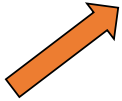





ROADS VALUE FOR MONEY AUDIT & ROADS QUALITY ASSURANCE SUPPLEMENTARY AUDIT DELIVERABLES







Completion Status Legend:










-  Ongoing/ On Target
-  Progressing but delayed
-  Incomplete
-  Not started / Pending
-  Complete

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
1	We recommend that the processes and methodologies for tracking and reporting the infrastructure gap be improved in order to provide more reliable information and effective support for decision making (Appendix A to Report AUD21006, para. 46).	Agreed	It is imperative that the infrastructure gap be transparent, repeatable and generated from a tested methodology that uses solid data and clear goals. A new methodology will be developed that will encompass all these requirements in order to provide effective support for decision making. This new methodology will be in alignment corporately via the new role of Director Corporate Asset Management.	Complete		<ul style="list-style-type: none"> • Guide to Asset Management Plans completed in Q1 2022 (Appendix "A" to Report PW22037) • A consistent process now exists for the development of asset management plans following the FCM (Federation of Canadian Municipalities) and IPWEA (Institute of Public Works Engineering Australasia) methodology. • Subscription to NAMS+ (National Asset Management System) toolset supports the IPWEA methodology and is being used in development of the Asset Management Plans. Governance exists in the tracking and reporting of the infrastructure gap through the Corporate Asset Management Office. • Core Asset Management Plans, including Transportation, completed in Q2 2022 (PW22048) 	<p>Starting benchmarking review.</p> <p>The NAMS+ (National Asset Management System) toolset with associated SOP will be utilized, which applies a consistent methodology.</p> <p>This approach will be incorporated into the new Enterprise Asset Management (EAM) system for continuity.</p>
2	We recommend that State of the Infrastructure (SOTI) Reports be developed into a more effective tool for reporting the state of road assets using a streamlined, consistent process with clearer evidence-based metrics (Appendix A to Report AUD21006, para. 53).	Agreed	The State of the Infrastructure Report has proven to be a helpful summary of current inventory and condition information of assets when it was initiated decades ago. The use of a letter grade in a SOTI report is being retired, as all assets will have data driven metrics in the future. All asset reporting will be evidence based and through future Asset Management Plan (AMP) updates under O Reg. 588/17.	Complete		<ul style="list-style-type: none"> • Core Asset Management Plans, including Transportation, completed in Q2 2022 (PW22048) 	<p>Effective Nov 18, 2021, the Core AMP has transferred to the Corporate Asset Management (CAM) Team.</p> <p>The IPWEA (Institute of Public Works Engineering Australasia) methodology will be used to finalize the asset management plan, ensuring a consistent process with evidence-based metrics.</p>
3	We recommend that future asset management plans incorporate a more robust approach for levels of service and risk management (Appendix A to Report AUD21006, para. 71).	Agreed	Management has been gathering data to define current levels of service for approval at Council level. Preliminary concepts were presented to GIC November 27, 2020, refer to File 2021 GIC Tax Capital Budget Presentation FCS20101, Slide 11. Council determined level of service, including risk assessment, will be developed in the Asset Management Plan under O.Reg.588/17. As part of Public Works's approach to continuous improvement in our asset management program, more robust processes for levels of service and risk management are in development. These revised processes will be in alignment with ISO 55000 for Asset Management and ISO 31000 for Risk Management.	Complete		<ul style="list-style-type: none"> • COH-P-031-001 Risk Management procedure completed in Q1 2023. • COH-P-039-002 Levels of Service procedure completed in Q2 2023. 	<p>Standard Operating Procedure (SOP) PW-P-039-001 Public Works Procedure for Performance Measurement is being updated to reflect language for Levels of Service (LOS).</p> <p>A SOP for a new risk process is currently in process which utilizes a scoring tool assessment and mitigates risks.</p>
4	We recommend that the Roads Program develop a strategic plan to address its improvement opportunities, and to map out strategies for achieving long term sustainability and implementing key performance measures (Appendix A to Report AUD21006, para. 71).	Agreed	Many elements of a Roads Program Strategic Plan exist or are in development, through the balance of 2021 into Q4 2022 these will be pulled together to form a comprehensive Transportation Operational Plan.	Revised Completion: Q4 2023 Original AUD21006 Completion: Q4 2022		<ul style="list-style-type: none"> • Core Asset Management Plans, including Transportation, completed in Q2 2022 (PW22048) • Transportation Operational Plan development underway. 	<p>Transportation System Operational Steering Committee and Working Group has been established.</p> <p>Transportation Operational Plan development underway.</p>
5	We recommend that performance measures be developed to assist in tracking and monitoring of the long-term sustainability of road assets (Appendix A to Report AUD21006, para. 79).	Agreed	Similar to responses to Recommendations 1 and 3 Management has been gathering data and establishing a framework to define current levels of service for approval at Council level. The City specific deterioration model that has been loaded into our Decision Support System (IRISS). Management will update the IRISS system with additional data (see Recommendation 9 response) that will assist in tracking road asset performance. This will be part of a continuous improvement process. Performance measures specific to long-term sustainability will also be developed. Examples include the asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and the medium term forecast costs/proposed budget (over 10 years of the planning period). Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10-year life of the Long-Term Financial Plan. This new methodology will be in alignment corporately via the new role of Director Corporate Asset Management.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q2 2022		<ul style="list-style-type: none"> • Core Asset Management Plans, including Transportation, completed in Q2 2022 (PW22048) • Pavement Data Management Review consultant assignment underway to review the City's framework for pavement data management. As part of this assignment, pavement preservation alternatives are being reviewed. 	<p>Update the existing Infrastructure report. Benchmark on how other municipalities are calculating condition assessments.</p> <p>Review and define and review how the OCI is calculated and utilized for various roadway classifications.</p>

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
6	We recommend that road asset management develop strategies and plans to deploy more proactive management of road assets with greater emphasis on preservation (Appendix A to Report AUD21006, para. 89).	Agreed	We will develop an operational plan for preservation activities of roadway pavement assets.	Revised Completion: Q4 2023 Original AUD21006 Completion: Q2 2022		<ul style="list-style-type: none"> Core Asset Management Plans, including Transportation, completed in Q2 2022 (PW22048) Transportation Operational Plan development underway. Pavement Data Management Review consultant assignment underway to review the City's framework for pavement data management. As part of this assignment, pavement preservation alternatives are being reviewed. 	Roster consultant assignment pending which includes an examination of preservation management. Preliminarily identified to be completed in Q3 of 2022 based on draft consultant proposal.
7	We recommend that senior management consider having the function of road asset management become a separately positioned and overseen function to ensure it has the independence and perspective necessary to develop an effective, objective approach to asset management (Appendix A to Report AUD21006, para. 90).	Agreed	Pursuant to an internal review and in consultation with the City Manager and the General Manager of Corporate Services and Finance in 2020, a dedicated corporate asset management portfolio has been initiated with a Director recently being recruited. An inventory will be undertaken in 2021 to determine roles and responsibilities as part of the implementation of the Corporate Asset Management office through which clear accountabilities will be established relative to asset management versus the managing of assets.	Complete		<ul style="list-style-type: none"> Corporate Asset Management Steering Committee Terms of Reference and City of Hamilton Corporate Asset Management Governance Strategy completed in Q1 2023. 	Corporate Asset Management Steering Committee established. Governance document drafted and expected released by Q1 2022.
8	We recommend that Roads management systematically track the accuracy of predicted life cycle costs in order to inform, improve and amend pavement deterioration forecasts, treatment timing, cost estimation, and to help identify anomalies (Appendix A to Report AUD21006, para. 92).	Agreed	Management has updated our Decision Support System with more current condition data. These reviews will continue in cycles as we gather additional condition data. In the mid-term (next 3 years), the new Enterprise Asset Management System currently being implemented will allow for the tracking of the accuracy of predicted life cycle in order to improve and amend pavement deterioration forecasts with associated timing, cost and the identification of anomalies. This new system will be instrumental in improving the way life cycle costing is managed in the corporate asset management program	Q4 2024		<ul style="list-style-type: none"> Enterprise processes to be built by Q4 2023. As divisions come online they will be integrated into the new system. 	<p>Reviewing how we are capturing activities in Hansen.</p> <p>Review EAM process maps for gap analysis on what we have and what we need.</p>
9	We recommend that Management report road pavement condition in a consistent manner across its different reporting mechanisms and collect pavement condition data on a more frequent basis (Appendix A to Report AUD21006, para. 100).	Agreed	Management has adjusted the use of the previous SOTI reports and pavement condition is scheduled to be collected in the 2022 budget and that will provide the City a 3-year cycle. The evolution of roads data collection over the last 20 years reveals the way the data is collected has developed over time as technologies emerge. There are strong correlations in automated systems and as we collect more information in the future that will create consistent data sets that can be analyzed over time. A standard operating procedure will be developed for the collection of pavement condition data.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q1 2022		<ul style="list-style-type: none"> Pavement Inspection Survey procedure development underway. 	SOP to be developed
10	We recommend that Roads management consider expanding the composition of its overall condition index to include a measure representative of a pavement's structural adequacy (Appendix A to Report AUD21006, para. 136).	Agreed	In recent projects Engineering Services has enhanced its pavement structure analysis to develop a more robust pavement design. On a network basis, such investigations will continue to be utilized as we gather data on our roads. However, to acquire an inventory of all 6000+ lane kilometers of road base composition will be a significant undertaking.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q1 2022		<ul style="list-style-type: none"> Pavement Inspection Survey procedure development underway. Pavement Design Criteria (previously referred to as Pavement Design Guidelines) consultant assignment underway. 	<p>SOP to be developed</p> <p>Engineering Services will pursue other innovative data gathering techniques (FWD, LWD, Ground Penetrating Radar, Electromagnetic Scans and other methods) to provide insight into the overall road composition. This will develop a more detailed database over time and will be coordinated with the developed of a Pavement Design Guideline that will incorporate preengineering investigations for project.</p>
11	We recommend that Roads management introduce measures to improve its system of oversight to ensure that contractors will be held rigorously to account for substandard performance and to ensure quality deficiencies are compensated for and/or corrected appropriately (Appendix A to Report AUD21006, para. 145).	Agreed	In 2018 the Construction Group began the implementation of an adjustment sheet. It is a modification from MTO's End Result Specification (ERS) spreadsheet that applies a payment reduction to the Asphalt Item. This reduction is based on the conformance to the mix design. A review of the current methodology to hold contractors accountable will be undertaken to ensure that substandard performance and quality deficiencies are compensated for and/or corrected appropriately.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q4 2022		<ul style="list-style-type: none"> Pavement Materials Quality Assurance procedure for linear construction projects within the right of way led by Engineering Services and Transportation Division development underway. 	<p>SOP to be developed.</p> <p>Key performance indicators will be developed and reported on through the State of the Transportation System annual report that will include pavement quality performance metrics and corrective actions related to substandard pavement quality.</p>

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
12	We recommend that Contractor performance for each contract be tracked and formally evaluated using a consistent and robust process and that the use of contractor ratings from previous performance be considered for implementation as a procurement criterion in order to mitigate the risk of poor results (Appendix A to Report AUD21006, para. 166).	Agreed	For contractor performance and tracking we have developed a holistic contractor performance summary report. Since 2018 Engineering Services has tracked material performance against each contract contractor, mix design and have taken over 900 samples and tested over 5,500 parameters. Asphalt quality has risen in that timeframe. Engineering Services is continuing to enhance its specifications while addressing contractor performance. It is within Procurement's workplan to research and develop a more robust Vendor Performance Program. The context of this program has yet to be determined however, Procurement will investigate the potential to use contractor ratings from previous contract performance as a procurement criterion in order to mitigate the risk of poor results. The Enterprise Asset Management system currently being implemented has the ability to formally track and evaluate vendor performance in conjunction with vendor information found in PeopleSoft. The system considers previous performance as part of the overall evaluation. Implementation is expected in the next 3 years.	Revised Completion: Q4 2024 Original AUD21006 Completion: Q4 2022		<ul style="list-style-type: none"> A Vendor Performance Project Manager has been hired to begin the process of developing and implementing a corporate vendor performance evaluation tool to be used in all contracts. Enterprise processes related to vendor performance to be built by Q4 2024. 	<p>SOP to be developed</p> <p>EAM implementation plan to be released in early 2022.</p> <p>Procurement is developing a corporate vendor performance evaluation tool to be used in all contracts. Significant consultation is required with both internal and external stakeholders</p>
13	We recommend that quality assurance and acceptance testing procedures and criteria be strengthened, including those for asphalt mixes, asphalt cement and recycled asphalt pavement materials (RAP), in order to ensure the risk of poorly performing asphalt is minimized (Appendix A to Report AUD21006, para. 169, 182).	Agreed	We have reviewed asphalt cement testing processes and have also retained a consultant to develop a Pavement Design Guideline that will take a holistic approach when designing pavements. The Pavement Design Guideline includes a review of RAP in order to Develop parameters for types of acceptable RAP and utilization guidelines based on type of roadway.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q2 2022		<ul style="list-style-type: none"> Pavement Materials Quality Assurance procedure for linear construction projects within the right of way led by Engineering Services and Transportation development underway. Pavement Design Criteria consultant assignment underway. 	<p>SOP to be developed</p> <p>Pavement Design Guideline to be completed</p>
14	We recommend that Management consider providing more resource support for quality assurance functions and processes to ensure they are robust and work as intended (Appendix A to Report AUD21006, para. 181).	Agreed	Management agrees with the observation regarding our QA function resourcing. As part of our review on the audit recommendations we will be developing options to support this function. This is likely to form part of the 2022 budget request to Council.	Complete		<ul style="list-style-type: none"> Business case for one additional Project Manager, Quality Assurance, approved through the 2023 budget in Q1 2023 (Report FCS23007(a)). Work processes related to quality assurance being developed (e.g., Recommendation 13, 29) Position planned to be filled. 	<p>New Manager Materials & Specifications was hired in fall 2021.</p> <p>Roles, responsibilities, and additional staffing to be determined in 2022.</p>
15	We recommend that the design function continue to move away from boilerplate design and embrace AASHTO 93 and MEPDG in a systematic way by developing a design guide, associated procedures, and training, and by considering the merits of establishing such knowledge requirements and expertise in relevant position descriptions (Appendix A to Report AUD21006, para. 184).	Agreed	Management notes this change will take a few years to complete, as our asphalt design cycle begins to evolve, starting with our programming phase. Management has undertaken a review to develop a program for pavement designs. Phase 1 due Q1 2022– Design review. Future phases including training and systems to be developed in 2022.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q4 2022		<ul style="list-style-type: none"> Pavement Design Criteria consultant assignment underway. 	<p>SOP to be developed</p> <p>Pavement Design Guideline to be completed</p>
16	We recommend that a review be undertaken of the adequacy of the City's current degradation fee in compensating the City for the lost value and accelerated deterioration of infrastructure as a result of road cuts (Appendix A to Report AUD21006, para. 205).	Agreed	Hamilton has been a leader in this area however we agree more can be done and will undertake continuous improvement work in 2021, due date in 2022.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q4 2022		<ul style="list-style-type: none"> Industry best practices scan (benchmarking) of pavement degradation fees completed in 2022, memo documenting results to be finalized. Results of best practices scan support maintaining current pavement degradation fees. 	<p>Best practices review being undertaken to determine if any adjustments are required.</p> <p>Will undertake an industry best practices review, assess City's data along with field investigation to quantify the loss in service life and develop recommendations on how to address the findings and any potential adjustments in current degradation fees.</p>
17	We recommend that Roads management strengthen its policies to ensure that contractors are incented to complete warranty deficiencies on a timely basis (Appendix A to Report AUD21006, para. 231).	Agreed	Our contracts have a two-year maintenance period and require performance and, labour and materials bonds. The performance bond includes the warranty period to address the correction of deficiencies. Engineering Services will review the current practices and policies to complete warranty deficiencies on a timely basis. Additionally, the Enterprise Asset Management system currently being implemented contains a warranty module that will assist with the tracking of warranty requirements, timing and reporting of instances where issues have been identified. Implementation is expected in the next 3 years.	Revised Completion: Q4 2023 Original AUD21006 Completion: Q1 2022		<ul style="list-style-type: none"> PW-P-026-004 Management of Asset Transfer procedure completed in Q3 2022. Engineering Services is reviewing current contract documents regarding warranties for opportunities to update/strengthen language about completing warranty deficiencies in a timely manner. Enterprise processes to be built by Q4 2023. As divisions come online they will be integrated into the new system. 	<p>Management of Asset Transfer SOP has been drafted and will be finalized.</p>

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
18	We recommend that Engineering Services provide information to, and involve Transportation Operations and Maintenance in warranty repairs so they will be alert to potential issues and are given a voice in the adequacy and timeliness with which contractors address deficiencies (Appendix A to Report AUD21006, para. 239).	Agreed	Public Works have been developing a policy to formalize the project hand over procedures between Engineering Services and Transportation Operations and Maintenance. This policy can be extended to all construction projects within the City including development related works. A formal Standard Operating Procedure related to asset handover from construction will be developed by Q4 of 2021. The Enterprise Asset Management system currently being implemented contains a warranty module that will assist with the tracking of warranty requirements, timing and reporting of instances where issues have been identified. This information will be available to staff in both Engineering Services and Transportation Operations and Maintenance. Implementation is expected in the next 3 years.	Revised Completion: Q4 2023 Original AUD21006 Completion: Q4 2021		<ul style="list-style-type: none"> PW-P-026-004 Management of Asset Transfer procedure completed in Q3 2022. Enterprise processes to be built by Q4 2023. As divisions come online they will be integrated into the new system. 	<p>Management of Asset Transfer SOP has been drafted and will be finalized.</p> <p>EAM implementation plan to be released in early 2022.</p>
19	We recommend that all potholes including MMS, non-MMS and those reported by members of the public be subject to tracked and reported remediation time standards (Appendix A to Report AUD21006, para. 241).	Agreed	A procedure and timeline for managing the repair of potholes that are both inside and are outside the scope of the requirements outlined in the Minimum Maintenance Standards (O. Reg 366/18) was developed. Pothole Repair Management Procedure PW-TOM-RM-P-026-003 was approved in May 2021.	Complete		<ul style="list-style-type: none"> PW-TOM-RM-P-026-003 Pothole Repair Management Procedure completed in Q2 2021. This procedure was replaced by PW-TOM-RM-P-026-012 in August 2022. 	SOP completed and implemented in Q2 2021
20	We recommend that Roads management explore opportunities for deploying the systematic use of preservation management in optimizing the condition and sustainability of City roads (Appendix A to Report AUD21006, para. 249).	Agreed	The preservation program will be expanded through the development of an Asphalt Mill and Pave Program, Preventative Asphalt Road Maintenance Program and a Roadway Crack Sealing through the Capital Budget process.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q1 2022		<ul style="list-style-type: none"> Roadway Crack Sealing Update completed in Q1 2022 (PW22012) Pavement Data Management Review consultant assignment underway to review the City's framework for pavement data management. As part of this assignment, pavement preservation alternatives are being reviewed. 	<p>Working group established for preservation.</p> <p>Roadway Crack Sealing update to be brought forward to Council.</p> <p>See item No. 6 above regarding roster consultant assignment.</p>
21	We recommend that as part of its procurement procedures roads management monitor the bidding process for red flags that may suggest irregularities have taken place and investigate if necessary (Appendix A to Report AUD21006, para. 258).	Disagreed Originally Action Pending	Roads management is not permitted to be involved in a competitive procurement bidding process until such time as a contract has been awarded or the procurement process has been cancelled. Participating in manner in the competitive process would be viewed as a perceived or apparent conflict of interest. Procurement is responsible for monitoring the bidding process for red flags however, until bids have been formally submitted, there is no way to determine if any "red flags" are present. Procurement staff would be willing to discuss with Office of the City Auditor any mechanisms to recognize any "red flags" should they occur. Should the Office of the City Auditor recommend that Road management perform some bid monitoring, Roads management would need to be advised specifically of those expectations and if there are any limitations or risks associated with doing so.	Revised Completion: To be confirmed. Original AUD21006 Completion: Not Applicable.		<ul style="list-style-type: none"> Action pending additional staff resources 	Public Works staff and Procurement met with Audit in Q1 2022 to discuss the recommendation and management response. Based on these discussions, further exploration will be undertaken to develop a process to monitor and identify irregularities.
22	We recommend that when dealing with specialized road work that can only be performed by a limited number of contractors, management work with Procurement to look for other contractors to make the process more competitive (Appendix A to Report AUD21006, para. 262).	Disagreed Originally Action Pending	Procurement uses "bids&tenders.ca" as its bidding procurement platform for posting the City's competitive procurement information. This website is widely used by various industries including Municipalities, Education, Health Care, Utility and Engineering and Construction across Ontario and Canada to facilitate an opening bidding process. While other procurement platforms exist, utilizing more than one platform would be redundant and would also create the possibility of inconsistencies between the sites. Online bidding platforms have been in use for a number of years and any vendor looking to submit bids to governmental agencies should be well versed in searching these platforms for opportunities. There are also several tutorials available for any vendor looking to start entering this competitive online market.	Revised Completion: To be confirmed. Original AUD21006 Completion: Not Applicable.		<ul style="list-style-type: none"> Action pending additional staff resources 	<p>Public Works staff and Procurement met with Audit in Q1 2022 to discuss the recommendation and management response.</p> <p>There are 2 types of road work that fall into this situation: Bonded Wearing Course and Surface treatment. Procurement are aware that there are a limited number of vendors who bid on these jobs because of the "type" of the specialized equipment required for the work.</p> <p>Procurement will be performing a market scan of other municipalities within Canada to determine if other qualified contractors are present to perform this work. Procurement recognizes that a vendor's location from which it operates may not be in close proximity to the work site and therefore this may be a key contributing factor to receiving a limited number of bids.</p>
23	We recommend that in the future, Roads management ensure change orders are approved in writing before work is performed and are sufficiently detailed to allow for subsequent review, validation and cost control (Appendix A to Report AUD21006, para. 264).	Agreed	We will review and adjust change order procedures in consultation with Finance and Administration to ensure correct protocols are being followed. Subsequent to this review the appropriate procedures will be developed by quality management staff and hosted in the Quality Resource Center.	Revised Completion: Q3 2023 Original AUD21006 Completion: Q2 2022		<ul style="list-style-type: none"> Review of current change order process completed. Change order procedure for linear construction projects development underway. 	Review of current change order process is underway. SOP to be developed to established roles and responsibilities for process.

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
24	We recommend that Management institute sufficient oversight and segregation of duties to ensure procurements undertaken through the roster method meet the requirements (Appendix A to Report AUD21006, para. 271).	Agreed	Segregation of roles in managing roster programs has been transitioned to the Manager level to ensure that correct oversight is undertaken.	Complete		• Completed in Q3 2022.	CRO office met with the Roster Chairs. ToR will be updated to include: <i>(In order to ensure separation of work and appropriate management oversight, roster captains shall not be a divisional director or above, in any acting or permanent capacity.)</i>
				Revised Completion: Q1 2024		• The action above will be captured in the next Policy revision due by Q1 2024.	Procurement will be reviewing and updating the Procurement Policy to ensure assignment and approval compliance across the organization.
25	We recommend that Roads management work with Finance to ensure proper invoicing for contractor services takes place in accordance with the Construction Act, that progress payment documentation is adequate, that under/overspent budgeted finds are appropriately accounted for, and transfers approved, and that controllership over these funds is sound (Appendix A to Report AUD21006, para. 280).	Agreed	To resolve Office of the City Auditor's recommendation Management in partnership with Finance and Administration will be aligning Engineering Services with the existing prompt payment processes in order to ensure proper invoicing per the Construction Act and progress payment documentation is occurring for contractor services.	Complete		• Completed in Q1 2022.	Engineering Services is implementing Construction Act Prompt Payment Procedure (COH-P-020-001)
			Further, Management will ensure controllership of capital funds through the involvement and oversight of Finance and Administration. Roles and responsibilities of the capital function will be reviewed by the Financial, Planning, Administration and Policy division	Revised Completion: Q4 2024 <i>Original AUD21006 Completion: Q3/Q4 2021</i>		• Procedure to be developed by Finance in conjunction with Public Works staff. • Departmental review of roles and responsibilities for finance-related items to be completed.	Complete an overall departmental review of roles & responsibilities for finance related items.
			As part of the Enterprise Asset Management System Project, Public Works in partnership with Finance and other applicable stakeholders are undergoing a review of business processes/procedures that will ultimately transform the current way of doing business and includes project management and governance/controllership principles/frameworks. The project is underway and will be implemented over the next three years. Public Works has committed to updating Council on an annual basis on the status of the project.	Q4 2024		• Enterprise processes to be built by Q4 2023. As divisions come online they will be integrated into the new system. Engineering Services will be online by Q4 of 2024.	As part of the EAM implementation an overall departmental review roles & responsibilities for finance related, including capital process.
26	That consideration be given to increasing the inspection levels by designing and adopting a risk-based approach for weight validation processes or the use of all-inclusive lump sums and square meter payments	Agree	Develop a SOP for enhanced risk-based inspection to ensure verification of weight-based materials, including alternative processes of payment.	Revised Completion: Q3 2023 <i>Original AUD21006 Completion: Q4 2022</i>		• Verification of weight-based materials procedure development underway.	Not applicable.
			Develop a business case to increase inspection FTE's for the 2023 budget cycle.	Complete		• Business case for one additional Contract Inspector and two additional Contract Inspector Co-op students approved through the 2023 budget process in Q1 2023 (Report FCS23007(a)). • Work processes related to Inspection being developed (e.g., Recommendation 26, 27, 28). • Positions planned to be filled.	Not applicable.
27	That the resources, training, and oversight in place be evaluated to ensure that weight validation, inspection and payment processes are adequately resourced to ensure compliance to the process	Agree	Assess and update Inspector Daily Diary requirements and Contract Inspectors Guidelines (Red Book) for potential improvements including defining roles and responsibilities for inspections and oversight.	Revised Completion: Q4 2023 <i>Original AUD21006(a) Completion: Q1 2023</i>		• Review of current Contractor Inspector's Field Manual (Red Book) for potential improvements underway.	Not applicable.
			Provide retraining to all inspection and project management staff for processes related to weight validation and payment processes.	Revised Completion: Q4 2023 <i>Original AUD21006(a) Completion: Q1 2023</i>		• Training for processes related to weight validation and payment processes will be delivered to Project Management and Inspection staff after the associated procedure has been finalized.	Not Applicable.

Recom. No.	Audit Recommendation	Agree / Disagree	Management Response	Expected Completion Date	Completion Status	Status Update	
						Q3 2023 (PW22007(a))	Q1 2022 (PW22007)
28	That the quality and comprehensiveness of construction project documentation is improved (including recordkeeping in the Inspectors' Daily Diaries) by implementing relevant guidelines and/or standard operating procedures	Agree	Assess and update Inspector Daily Diary requirements and Contract Inspectors Guidelines (Red Book) for potential improvements.	Revised Completion: Q4 2023 Original AUD21006(a) Completion: Q1 2023		• Review of current Contractor Inspector's Field Manual (Red Book) for potential improvements underway.	Not applicable.
			Provide retraining to all inspection and project management staff for processes related to Construction Project documentation.	Revised Completion: Q3 2023 Original AUD21006(a) Completion: Q1 2023		• Training for processes related to Construction Project Documentation planned for Q3 2023.	Not applicable.
			Develop a SOP for review of Construction Project documentation by management.	Complete		• PW-EG-CNS-P-001-001 Review of Construction Project Documentation by Management procedure completed in Q2 2023.	Not applicable.
			Implement EAM for Inspectors' Daily Diaries and investigate potential use of EAM for the management of Construction Project documentation.	Revised Completion: Q4 2024 Original AUD21006(a) Completion: Q2 2024		• Enterprise processes to be built by Q4 2023. As divisions come online they will be integrated into the new system. Engineering Services will be online by Q4 of 2024.	Not applicable.
29	That quality assurance guidelines and standard operating procedures, including plant inspections and Petrographic Testing for premium asphalt aggregates, be risk-based and be formally documented and adhered to. Risks to be considered should include: financial and safety risks (including roadway traffic volume related risks)	Agree	Quality Assurance Pavement Material Testing SOP to be developed in coordination with AUD21006 – Road Value for Money Audit response item #11 & 13.	Revised Completion: Q3 2023 Original AUD21006(a) Completion: Q4 2022		• Pavement Materials Quality Assurance procedure for linear construction projects within the right of way led by Engineering Services and Transportation development underway.	Not applicable.
			Develop SOP specifically for Plant Inspections.	Complete		• PW-EG-CNS-C-027-001 Asphalt Plant Inspection checklist completed in Q2 2023.	Not applicable.
			Develop Quality Assurance Manual to develop guidelines that consider financial and safety risks.	Q4 2023		• Preparing terms of reference.	Not applicable.
30	That consideration be given to expanding the quality assurance function during peak construction periods of the year in order adequately manage the risks associated with the construction activities	Agree	Complete a review and risk observation regarding the quality assurance function resourcing in coordination with AUD21006 – Road Value for Money Audit response item #14.	Complete		• Resource review completed in Q2 2022. Through this review the need for one additional Project Manager, Quality Assurance was identified.	Not applicable.
			Develop business case to increase quality assurance FTE's for the 2023 budget cycle.	Complete		• Business case for one additional Project Manager, Quality Assurance, approved through the 2023 budget in Q1 2023 (Report FCS23007(a)). • Work processes related to quality assurance being developed (e.g., Recommendation 13, 29) • Position planned to be filled.	Not applicable.

Links to previous reports:

- (1) [Roads Value for Money Audit \(AUD21006\)](#)
- (2) [Roads Value for Money Audit: Management Update \(PW22007\)](#)
- (3) [Roads Value for Money Audit - Roads Quality Assurance Supplementary Audit Report \(AUD21006\(a\)\)](#)